

Hypertension in Nonsmokers. The articles which do not show the health hazards of smoking are inserted in these tables. This is unfortunate, because the significance of the observations are lost and buried underneath the selected papers. The Results of (56) Edwards are as follows:

Hypertension

In view of the continuous distribution of arterial pressure, a full assessment of the effect of smoking requires a more critical appraisal than we can attempt here. Nevertheless the limited data available for the preliminary note suggested that, even when men are identified arbitrarily as hypertensive (that is with systolic or diastolic pressures above 200 or 100 mm. Hg respectively), a relationship to smoking was apparent. It was therefore thought worth while to use the data now available for all men over 60 for a more complete examination of this relationship.

TABLE XI—PROPORTION (%) OF MEN WITH HYPERTENSION ACCORDING TO SMOKING HABITS AND AGE

Age (yr.)	Men not smoking	Men smoking		All men who have never smoked cigarettes
		Cigarettes	Pipe	
60-64	19.0	14.9	15.0	16.1
65-69	21.4	12.2	17.6	20.2
70-74	40.4	34.7	31.3	35.5
75 and over	34.5	32.0	34.7	35.1
Total	24.2	20.5	25.9	27.2

TABLE XII—PROPORTION (%) OF MEN WITH HYPERTENSION ACCORDING TO SMOKING HABITS AND SOCIAL CLASS

Social class	Men not smoking	Men smoking		All men who have never smoked cigarettes
		Cigarettes	Pipe	
I & II	24.5	18.9	20.3	21.6
III	31.1	19.8	28.0	30.2
IV & V	24.1	23.1	26.1	24.8

Table XI gives the percentages of men with pressures above the limits referred to according to age and smoking habits. As would be expected, the percentages are much higher above than below 70, although they do not appear to differ appreciably in the age-groups 70-74 and 75 and over. But at all ages the incidence of hypertension is lower in cigarette-smokers than in men not smoking. The frequency in pipe-smokers is intermediate between that of the two previous groups, but is much nearer to the level in cigarette-smokers than in men not smoking. In this case, therefore, unlike the two previously considered, the effect on arterial pressure seems to be common to cigarette- and pipe-smokers.

The relationship between the incidence of hypertension and social class (table XII) is not regular. High pressures are, however, less common in cigarette-smokers than in men not smoking.

Discussion

Some of the criticisms of the evidence relating smoking to disease are overcome by investigation of a random sample of the general population. By this method it is possible to examine the frequency of disease in smokers and non-smokers—a procedure less open to criticism than a comparison of the smoking habits of the affected individuals with those of a control group. Already some fairly

large populations have been assembled in which the incidence of mortality from specific diseases has been related to smoking. But data in respect of morbidity are also required, and the populations which can be studied are inevitably much smaller. In practice investigation of the effects of smoking on morbidity in a sample of the general population is almost inevitably restricted to the common diseases.

In the present assessment of the effects of smoking in 1737 representative men over the age of 60, we have considered only the eight most common diseases or disabilities. Three diseases—bronchitis, peptic ulcer, and hypertension—were consistently related to smoking habits. Bronchitis and peptic ulcer were commoner in men smoking than in men not smoking and increased in frequency with increasing amounts smoked. The incidence of both diseases was higher in poorly paid (classes IV and V) than in well-paid occupations (classes I and II). The relationship of smoking to incidence, however, appeared to be independent of social class. (Expressed differently, in all classes the frequency of the diseases was increased by smoking.) In general the experience of pipe-smokers was about the same as that of men not smoking, the increased risks being apparently restricted to cigarette-smokers. The observations on bronchitis are consistent with previous reports (Oswald and Medvei 1955, Ogilvie and Newell 1957), and those on peptic ulcer confirm and extend results described by Doll et al. (1958).

The frequency of hypertension (arterial pressures above 200 mm. Hg systolic or 100 mm. Hg diastolic) was greater in men not smoking than in cigarette- or pipe-smokers, and

in this case incidence was inversely related to amounts smoked. This finding was observed in each of the occupational groups considered, but there was no consistent relationship between incidence and social class. Pressures in men who had given up smoking were approximately the same as in those who had never smoked. These results suggest that the lowering of arterial pressure produced by smoking is a short-term one and disappears after smoking is stopped for a period.

For reasons referred to earlier, in interpretation of the effects of smoking the common conditions whose incidence was not associated with it—coronary-artery disease, arthritis, defective hearing, and defective vision—are almost as significant as those which are. It must be remembered, of course, that observations on living men are incomplete; for example, there is a good deal of evidence that mortality due to coronary-artery disease is related to smoking (Hammond and Horn 1951, Doll and Hill 1956). Nevertheless the facts that the common diseases with which smoking is so consistently associated are those in which an aural or respiratory irritant might be expected to be significant, and in which smoking had been mentioned as an aetiological influence long before there was direct evidence, meet to some extent the reservation that smokers as a class may be genetically more susceptible to the diseases associated with smoking.

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